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ABSTRACT

This study investigated the common assumption of non-rigor associated with teacher preparation programs. Specifically, the study attempted to answer the question: "Are high school grades, Scholastic Aptitude Test (SAT) scores, and college/university grades significant predictors of final grades in the teacher education classroom?" Forty junior-level elementary teacher preparation students at a university in the Southwest responded to a questionnaire asking for information about high school grades, SAT scores, and college grades. This information was categorized and a model was constructed to predict the final grades of a teacher education course the students were currently taking. At the conclusion of the course, the instructors provided final grades. The data indicated "top-heavy" grades in the education class; they also indicated that the respondents were better than average students in high school and at least average students in college. Changes in grades and SAT scores did significantly predict changes in the final grade of the course. Those students who reported relative success in the three predictor variables did well in the teacher education course, and those with lower grades and scores did less well in the course. (CB)

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Teacher Education and Academic Rigor

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There is a common assumption of non rigor associated with teacher preparation programs. They are perceived as dumping-grounds for college students who lack either the ability or the initiative to compete effectively in other, traditional academic programs (Commons, 1984-85; Nelli, 1984; Schlechty & Vance, 1981). Several years ago Weaver (1979) presented data from SAT and ACT scores to support his contention that "schools of education are selecting potential educators from among the least academically talented populations applying for college admission" (p. 29). The talent pool is further diluted, he charged, because teacher preparation programs make no attempt to discriminate between less and more able candidates. His suggestion was that of those who enter teacher education, the least academically able are just as likely to become certified teachers as are their more able colleagues (p. 30).

Such contentions, coupled with more general criticisms of elementary and secondary education have prompted something of a siege mentality among many educators. An inadequate research-base has obliged those who might have responded to the charges to be silent. The consequence is that many in and outside of education have accepted all the criticisms of teaching and of teacher training as uniformly valid, and the erosion of public confidence precipitated by declining test scores has continued.

Are conditions in teacher education as stark as Weaver suggested? Data gathered subsequent to his publication suggest that they are not. Savage (1983) found "scant support" for the claim that many students choose education because they are unable to succeed in other areas. His comparison of the high school grades and SAT scores of education majors with those of students from other colleges throughout a large university suggested that the only substantial difference was in the SAT math subscore where education majors scored lower. He concluded that the top 60 to 75% of students majoring in elmentary education could be successful in nearly any other field of study.

Nelli (1984) cited research conducted in Pennsylvania, Illinois, and Kentucky which showed that teacher education students' scores on a variety of measures including ACT and grade point were at, or above, the level of noneducation students. Ishler (1984), in a nationwide survey, found that requirements for admission to, and graduation from teacher education programs were generally higher than the requirements of other undergraduate programs offered at the same institutions.

Cohen (1984) recently completed a study which examined the academic qualifications of preparing teachers throughout the California State University system. This very comprehensive investigation compared the grade point averages of credential to noncredential candidates in five

areas: cumulative GPA, GPA in residence at the degree granting institution, GPA in the academic major, GPA at the time the education sequence was begun, and GPA in basic skills courses. Cohen found that where there were statistically significant differences, credential candidates held a slight advantage. He noted that charges of academic inferiority are often based on test scores gathered among high school students. Comparisons based on statements of intention have not been demonstrated to have sufficient reliability for such analyses.

Weaver's second charge was that even in times of declining aptitude scores conventional college courses continued to discriminate according to ability. Teacher education courses, he argued, did not. This charge has special significance to those in education programs because although there is only limited control over those who choose to pursue a career in education, there is a degree of control over those who are recommended for certification.

Grades and SAT scores are both measures which have substantial predictive validity (Weitzman, 1982). If Weaver's charge that teacher education programs fail to discriminate between the less and the more able teacher education student is an accurate one, it can be presumed that the relationship between those measures of academic achievement and the grade received in an education class will be a weak one. Conversely, should such traditional

academic measures prove statistically significant predictors of an education course grade, charges that education classes do not discriminate according to ability would not be supported. This paper asks:

> Are high school grades, SAT scores, and college/university grades significant predictors of final grade in the teacher education classroom?

METHOD

Regression procedures are particularly attractive in problems of this nature. Regression analysis reveals how well changes in selected variables will predict changes in a criterion variable (Pedhazur, 1982, p. 137). In the case at hand, the concern is whether a model can be constructed in which SAT, high school grade point average, and overall college grade average, each accepted measures of academic ability, will predict with a degree of statistical significance, the final grade in a teacher preparation course.

Forty junior-level elementary teacher preparation students at a university in the Southwest were administered a questionnaire. The questionnaire asked for information regarding high school grades, SAT scores and college grades. Grades were reported as falling into one of the following areas on a four-point scale: lower than 2.5, 2.5 to 2.99, 3.0 to 3.49, and above 3.49. Categories for SAT scores

were: below 800, 800-999, 1000-1199, 1200-1399, and above 1399. Some of the difficulties which can accompany self-report data were avoided by identifying respondents by number only. At the conclusion of the course, instructors provided final grades by those same numbers.

RESULTS

Table 1 presents a frequency distribution for the various categories of the predictor variables. The data indicate top-heavy grades in the education class. They also indicate that these respondents were better-than-average students in high school and at least average students in college.

--insert Table 1 about here

Data from the multiple regression analysis are presented in Table 2. Changes in the predictor variables (grades and SAT scores) do significantly predict ($p<.01$) changes in the criterion variable (final grade in the teacher preparation course). Although top-heavy grades in the education course suggest minimal discrimination according to ability, the analysis indicates otherwise. Those students who reported relative success in the areas measured by the three predictor variables are those who did well in the teacher education course, and those with lower

grades and scores did less well in the course. Furthermore, the most reliable predictor of success in the teacher preparation classroom was overall college/university grade average. Although results indicate that the individual's SAT was not a statistically significant predictor variable, unusual confidence is indicated for the predictive strength of overall college grades.

--insert Table 2 about here--

DISCUSSION

A perusal of course grades shows that they were predominantly A's and B's. It is tempting to suggest that grades reflect particularly able teachers and very dedicated students. The more plausible explanation is that they reflect grade inflation. That problem, however, is not unique to education courses (Byar & Blew, 1981). Fundamentally, many of the difficulties which are placed at the feet of teacher education may not be any less the problem of other university programs. The lack of rigor with which education classes are charged may be a charge which should be leveled at undergraduate courses generally. As Smith (1982) has pointed out, few critics who have denigrated the qualifications of education students have attempted to explain how teachers manage to pass presumably rigorous courses offered outside colleges of education by the colleges of arts and sciences (p. 49).

Weaver (1979) argued that college teacher education courses discriminate poorly. Though there is need for caution when generalizing from results gathered at one institution, these data do suggest discrimination among participants in terms of traditional measures of academic ability, perhaps as well as college courses generally discriminate.

This conslusion has implications for the more general issue of the ability of teachers. The R-square value for the regression model used here indicated that 26% of the variance in final grades in the education course could be explained by variations in the three predictor variables. This is an important beginning, but one is prompted to search for a model which has greater explanatory power. Although such efforts are not common, research has attempted to identify other factors which are important predictors of teacher success. Work by Chapman and Hutcheson (1982) suggests that the answer to these and related problems in education may lie beyond the consideration of only academic ability. Their discriminant analysis of teachers who remained in the classroom and those who left for other occupations suggested that those who can cope with the stesses and strains of the classroom were characterized as having greater organizational skills than those who left. They add that those who leave are characterized not as having greater ability, but as having selected different criteria of success from those who chose to remain (p. 103).

This latter point seems particularly important. The allegation that the most talented teachers soon leave education (Commons, 1984-85) is heard often. Chapman and Hutcheson have called it into question by suggesting that the differences between those who choose to teach and those who ulitmately choose alternatives are not necessarily differences in academic ability. A subsequent paper by Chapman (1984) indicated that among those entering teaching, the quality of first teaching experience was more strongly related to subsequent attrition than was either their academic perfomance or the perceived adequacy of their educational program.

These papers suggest that charges that the most talented teachers soon leave education (Commons, 1984-85) represent an over-simplification. Complaints that teacher education is an academic dumping-ground may represent the same sort of over-simplification. Subsequent work which attempts to analyze the characteristics of teacher candidates and of teacher education programs ought to accomodate such possibilities.

There are undeniable problems in education and in teacher education. It appears that the charges do not always reflect the same substance, however. A developing research-base will help educators decide which charges are substantive and therefore indicate the need for adjustment, and which can be refuted as groundless.

Table 1

Frequency Distribution: High School Grades, SAT Scores, College Grades, and Teacher Education Grades

High School Grades			
Below 2.5	2.5-2.9	3.0-3.49	Above 3.49
0	7	18	15

SAT Scores				
Below 800	800-899	1000-1199	1200-1399	Above 1399
7	21	8	4	0

College Grades			
Below 2.5	2.5-2.9	3.0-3.49	Above 3.49
10	20	5	5

Education Course Grade				
F	D	C	B	A
0	0	1	21	18

Table 2

High School Grade Average, SAT Score, and College Grade Average as Predictors of Success in the Teacher Education Classroom

Source of Variation	df	SS	F	Pr >	R-Square
Model	3	3.04	4.18	.01	.26
HGR	1	.82	3.38	.07	
SAT	1	.21	.85	.36	
CGR	1	2.02	8.31	.01	
Error	36	8.73			
Cor. Total	39	11.78			

Note. HGR = High School Grade Average
SAT = Score on Scholastic Aptitude Test
CGR = College Grade Average

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